

REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

In the present Office Action, Claims 43, 46-48, 51, 55, 58, 60, 63, 68 and 69 are objected to due to the minor informalities mentioned at Page 2-Page 3 of the present Office Action. Claims 44, 49, 51, 52, 53, 54, 56, 59, 61, 65 and 72 are rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite.

In response to the objection to Claims 43, 46-48, 51, 55, 58, 60, 63, 68 and 69, applicants have amended the claims in the manner proposed by the Examiner in the present Office Action. In view of the above amendments to Claims 43, 46-48, 51, 55, 58, 60, 63, 68 and 69, the objection raised in the present Office Action has been obviated. Thus, reconsideration and withdrawal of the instant objection are respectfully requested.

With respect to the indefiniteness rejection of Claims 44, 49, 51, 52, 53, 54, 56, 59, 61, 65 and 72, applicants have amended the claims to include proper antecedent basis for the terms alleged to have insufficient antecedent basis. The amendments to Claims 44, 49, 51, 52, 53, 54, 56, 59, 61, 65 and 72 obviate the §112, second paragraph rejection raised in the present Office Action. Thus, reconsideration and withdrawal of the instant §112 rejection are respectfully requested.

Claim 72 stands rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,534,713 to Ismail, et al. ("Ismail, et al.").

With respect to the §102(b) rejection, it is axiomatic that anticipation under §102 requires that the prior art reference disclose each and every element of the claim to which it is applied. In re King, 801 F.2d 1324, 1326, 231 U.S.P.Q. 136, 138 (Fed. Cir. 1986).

Thus, there must be no differences between the subject matter of the claim and the disclosure of the applied prior art reference. Stated another way, the reference must contain within its four corners adequate direction to practice the invention as claimed. The corollary of the rule is equally applicable: The absence from the applied reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1571, 230 U.S.P.Q. 81, 84 (Fed. Cir. 1986).

Applicants submit that method Claim 72 of the present application is not anticipated by the disclosure of Ismail, et al. since the applied reference does not disclose applicants' claimed processing steps recited therein. Specifically, Ismail, et al. does not disclose the formation of an over-shoot layer, $\text{Si}_{1-y}\text{Ge}_y$, *within a relaxed structure of a relaxed SiGe first layer* having a Ge fraction y, where $y = x + z$ and z is in the range from 0.01 to 0.1, and having a thickness less than its critical thickness with respect to the top of said first layer.

Applicants claimed structure is shown, for example, in FIG. 1 wherein the over-shoot layer 12b is located within a first relaxed $\text{Si}_{1-x}\text{Ge}_x$ layer (designated by reference numerals 12A and 12C) which is located atop a single crystalline substrate.

Ismail, et al. provide a structure, such as shown in FIG. 2, that includes a substrate 20 having an upper surface 21 with a planar heterostructure 22. The planar heterostructure includes layers 34, 36, 38, 32, 40, 30, 42 and 44 in epitaxial relationship formed thereover. Above planar heterostructure 22 is layer 24 which functions as a gate oxide for gate electrodes 16 and 17 and a thicker field oxide may be formed or deposited in regions between gate electrodes. In planar heterostructure 22 strain is made use of in order to improve the device performance. The unique features of the planar

heterostructure 22 of Ismail, et al. is that the layers have planar upper and lower surfaces across the substrate, i.e., no etching or selective growth is needed for p-channel field effect transistor 11 or PMOS devices and n-channel field effect transistor 10 or NMOS devices.

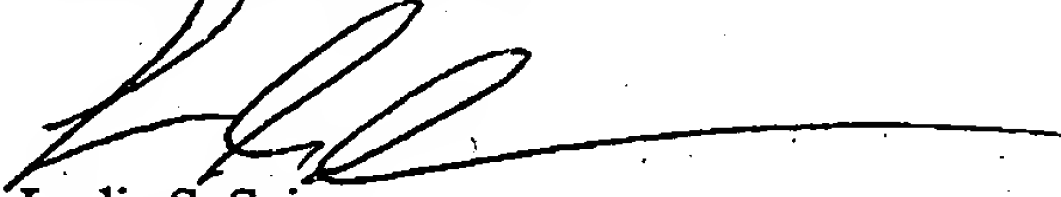
Applicants observe that in the Ismail, et al. structure a relaxed SiGe buffer layer 34 is first grown on upper surface 21 of substrate 20 with a Ge composition in the range from 20 to 50%. A p type region 26 is grown atop the relaxed SiGe buffer layer 34 and an n type dopant region 27 may be formed by ion implantation and annealing in the relaxed SiGe buffer layer. Applicants find not disclosure in Ismail, et al. of forming an over-shoot layer *within a relaxed structure of said first relaxed SiGe layer*.

Applicants observe that in the present Office Action, the Examiner refers to layer 30 of the Ismail, et al. structure as the over-shoot layer. Applicants submit that layer 30 in the prior art structure is a compressively-strained SiGe layer which functions as a p-channel for p-channel field effect transistors that is located atop, not within, the relaxed SiGe buffer layer 34. As such, the claims of the present application are not anticipated by the disclosure of Ismail, et al.

The foregoing remarks clearly indicate that the applied reference does not teach each and every aspect of the claimed invention as required by King and Kloster Speedsteel; therefore the claims of the present application are not anticipated by the disclosure of Ismail, et al.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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